

This document provides pertinent information concerning the issuance of the VPDES Permit listed below. This permit is being processed as a Minor, Industrial permit. The discharge is the result of daily operations and stormwater runoff from a commercial truck stop's gasoline and diesel fueling islands. This permit action consists of proposed effluent limits to reflect the current Virginia WQS, effective 6 January 2011. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1. Facility Name and Mailing Address: Flying J Travel Plaza #749  
5508 Lonas Road  
Knoxville, TN 37939  
SIC Code: 5541 – truck stop with convenience store  
Facility Location: 24279 Rogers Clark Boulevard  
Carmel Church, VA 22546  
County: Caroline  
Facility Contact Name: Keith Carlton  
Telephone Number: 865-588-7488
2. Permit No.: VA0092657  
Expiration Date: Not Applicable  
Other VPDES Permits: Not Applicable  
Other Permits: Registration ID 3007985 – Underground and Aboveground Storage Tanks (USTs/ASTs)  
E2/E3/E4 Status: Not Applicable
3. Owner Name: Pilot Travel Centers, LLC  
Owner Contact / Title: Keith Carlton  
Environmental Project Manager  
Telephone Number: 865-588-7488
4. Application Complete Date: 15 November 2011  
Permit Drafted By: Douglas Frasier  
Date Drafted: 10 February 2012  
11 May 2012  
Draft Permit Reviewed By: Alison Thompson  
Date Reviewed: 17 February 2012  
WPM Review By: Bryant Thomas  
Date Reviewed: 28 February 2012  
Public Comment Period: Start Date: 26 May 2012  
End Date: 25 June 2012
5. Receiving Waters Information:  
Receiving Stream Name: North Anna River, UT  
Stream Code: 8-XIM  
Drainage Area at Outfall: 0.034 square miles  
River Mile: 3.38  
Stream Basin: York River  
Subbasin: None  
Section: 3  
Stream Class: III  
Special Standards: None  
Waterbody ID: VAP-F09R  
7Q10 Low Flow: 0.0 MGD\*  
7Q10 High Flow: Not Applicable\*\*  
1Q10 Low Flow: 0.0 MGD\*  
1Q10 High Flow: Not Applicable\*\*  
30Q10 Low Flow: 0.0 MGD\*  
30Q10 High Flow: Not Applicable\*\*  
Harmonic Mean Flow: 0.0 MGD\*  
30Q5 Flow: Not Applicable\*\*  
303(d) Listed: Yes – Downstream segment of the receiving stream for pH impairment  
TMDL Approved: No  
Date TMDL Approved: Not Applicable

\*Due to the small (<1 sq. mile) drainage area at the Outfall, it is staff's best professional judgement that the critical flows of the receiving stream would be zero.

\*\* The discharge only occurs during wet weather events and instream flows would be variable.

**6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:**

<input checked="" type="checkbox"/> State Water Control Law	<input type="checkbox"/> EPA Guidelines
<input checked="" type="checkbox"/> Clean Water Act	<input checked="" type="checkbox"/> Water Quality Standards
<input checked="" type="checkbox"/> VPDES Permit Regulation	<input checked="" type="checkbox"/> Other: 9VAC25-120 et seq.
<input checked="" type="checkbox"/> EPA NPDES Regulation	General VPDES Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation and Hydrostatic Tests

7. Licensed Operator Requirements: Not Applicable

8. Reliability Class: Not Applicable

**9. Permit Characterization:**

<input checked="" type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input type="checkbox"/> TMDL		

**10. Wastewater Sources and Treatment Description:**

The Flying J Travel Plaza #749 is a 25 acre facility, comprised mostly of impervious asphalt, located at the Route 207 and Interstate 95 interchange in Caroline County. This is a commercial truck stop with gasoline and diesel fuel self-service dispensers. Stormwater and daily operation wash downs are routed from the diesel, gasoline and RV fueling islands via trench drains located along the entrance of each fueling island. The conveyance system for the diesel fueling island is directed to an oil/water separator (OWS). The drains for the RV and gasoline fueling islands are connected directly to the facility's stormwater conveyance system. All flow from the fueling islands is eventually directed to stormwater Basin #2 which is utilized as a settling basin for solids removal prior to discharging to the receiving stream. This discharge point will be designated as Outfall 002. The basin is equipped with oil absorption socks at both the inlet and outlet.

The facility has another basin, Basin #1, which receives runoff from the remaining parking area. This basin does not receive any process water. This is a point source and will be designated as Outfall 001. The current *General VPDES Permit for Discharges of Stormwater Associated with Industrial Activity* (9VAC25-151 et seq.) excludes parking lot runoff as long as the drainage does not mix with process water from the industrial activities. This permit recognizes and authorizes the permittee to discharge from Outfall 001. The management of this discharge point will be governed by best management practices under the stormwater pollution prevention plan that is required to be developed during this permit term. If regulations should change, then this outfall will be reexamined at that time.

Point of compliance for Outfall 002 will be located at the discharge outlet of Basin #2.

See **Attachment 1** for the NPDES Permit Rating Worksheet.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1  
OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Design Average Flow	Latitude / Longitude
001	Parking lot runoff	NA	NA	37° 55' 57.7" / 77° 28' 11.7"
002	Stormwater/water runoff at the diesel fueling island via trench drains	OWS	0.00017 MGD	37° 55' 57.5" / 77° 28' 25.9"

See **Attachment 3** for the Ruther Glen topographic map.

**11. Sludge Treatment and Disposal Methods:** There is no domestic sludge generated from this operation.

**12. Discharges and Monitoring Stations located within waterbody VAP-F09R:**

TABLE 2 DISCHARGES & MONITORING STATIONS			
ID / Permit Number	Facility Name	Type	Receiving Stream
VA0068314	Rhapsody Industrial Park	Municipal	North Anna River, UT
VA0091006	Kings Dominion	Industrial	
VA0052906	Doswell Truck Stop		
VA0025569	Hanover County Doswell WTP	Industrial	North Anna River
VA0029521	Hanover County Doswell WWTP	Municipal	
VAG110262	S B Cox Ready Mix Inc. – Doswell Plant	Concrete General Permit	North Anna River, UT
VAG840088	Martin Marietta Aggregates Doswell Quarry	Nonmetallic Mineral Mining General Permit	Little River Little River, UT North Anna River, UT
8-XIM000.53	DEQ Freshwater Probabilistic Monitoring Station		North Anna River, UT

**13. Material Storage:**

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Diesel Fuel	Three (3) – 20,000 gallon USTs	Spill Prevention, Control and Countermeasure Plan (SPCC)
Gasoline	Three (3) – 12,000 gallon USTs	
Pre-packaged petroleum products	Various quantities	Under roof

**14. Site Inspection:** Performed by Douglas Frasier on 7 February 2012 and 19 April 2012 (see **Attachment 4**).

**15. Receiving Stream Water Quality and Water Quality Standards:**

a. Ambient Water Quality Data

The nearest DEQ monitoring station is 8-XIM000.53, Freshwater Probabilistic Monitoring Station, located approximately 2.85 rivermiles downstream from Outfall 002 on the North Anna River, UT. The downstream portion of the unnamed tributary has been listed as not supporting Aquatic Life Use due to pH excursions measured at the aforementioned station. The TMDL for this impairment is expected by 2022 unless it is determined that the impairment is caused by natural conditions (i.e. swamp-like conditions).

The full planning statement is found in **Attachment 5**.

b. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260-(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, North Anna River, UT, is located within Section 3 of the York River Basin and designated as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

**Attachment 6** details other water quality criteria applicable to the receiving stream. Since there was no effluent or receiving stream data, staff utilized default values for pH and temperature in order to calculate the criteria.

#### Ammonia:

It is staff's best professional judgement that this is not a pollutant of concern since there are no sources on site in appreciable quantities.

#### Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream and/or the effluent hardness values (expressed as mg/L calcium carbonate). Since there is no ambient hardness data available or effluent data since this is the first issuance, staff guidance suggests using a default hardness value of 50 mg/L CaCO<sub>3</sub> for streams east of the Blue Ridge.

The hardness-dependent metals criteria in **Attachment 6** are based on this default value.

#### Bacteria Criteria:

The Virginia Water Quality Standards 9VAC25-260-170.A state that the following criteria shall apply to protect primary recreational uses in surface waters:

*E. coli* bacteria per 100 mL of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean <sup>1</sup>
Freshwater <i>E. coli</i> (N/100 mL)	126

<sup>1</sup>For a minimum of four weekly samples taken during any calendar month

It is staff's best professional judgement that *E. coli* bacteria is not expected to be present in this industrial stormwater discharge; therefore, limitations are not applicable to this facility.

#### c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, North Anna River, UT, is located within Section 3 of the York River Basin. This section has not been designated with a special standard.

#### d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 9 November 2011 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Rafinesque's Eastern Big-Eared Bat; Upland Sandpiper (song bird); Loggerhead Shrike (song bird); Bachman's Sparrow; Bald Eagle; and Migrant Loggerhead Shrike (song bird). The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

### 16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.



The receiving stream critical 7Q10 and 1Q10 flows have been determined to be 0.0 MGD at Outfall 002 and the surrounding area is highly developed; therefore, it is staff's best professional judgement that the receiving stream, North Anna River, UT, be classified as Tier 1. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

#### 17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. Even though the critical 7Q10 and 1Q10 flows have been determined to be zero, the majority of discharges would be a result of precipitation and it is probable that flow would be present in the receiving stream. However, that flow would be variable depending on the amount of precipitation the area received. Therefore, it is staff's best professional judgement that the WLAs be set equal to the WQS to ensure that the receiving stream is protected at all times.

The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

##### a. Effluent Screening

Sampling data submitted with the permit application, as required, has been reviewed and determined to be suitable for evaluation.

##### b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where: WLA = Wasteload allocation  
 $C_o$  = In-stream water quality criteria  
 $Q_e$  = Design flow  
 $Q_s$  = Critical receiving stream flow  
 (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)  
 $f$  = Decimal fraction of critical flow  
 $C_s$  = Mean background concentration of parameter in the receiving stream.

Since the amount of flow present in the receiving stream would vary during a discharge event and the potential exists that a discharge could be a result from daily operations, it is staff's best professional judgement that determination of a mixing zone is not possible. Therefore, the WLA will be equal to the  $C_o$  to ensure that the water quality criteria are maintained at all times.

##### c. Effluent Limitations, Outfall 002 – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N:

This is an industrial stormwater discharge and ammonia based products are not utilized or stored at this facility. It is staff's best professional judgement that ammonia is not present in appreciable amounts; thus, not a pollutant of concern.

2). Total Residual Chlorine:

This is an industrial stormwater discharge and chlorine based products are not utilized or stored at this facility. Daily operations do utilize potable water during wash downs but it is unlikely that a discharge would occur during this time; allowing any residual chlorine present to dissipate prior to a discharge. Therefore, it is staff's best professional judgement that chlorine is not present in appreciable amounts; thus, not a pollutant of concern.

3). Metals:

It is staff's best professional judgement that any metal concentrations present would be negligible. The source areas consist of fueling islands and the source water is either precipitation or wash downs from daily operations. Therefore, metals would not be present in appreciable amounts; thus, not a pollutant of concern.

The following discussions refer to those limitations found in the *General VPDES Permit for Discharges from Petroleum Contaminated Sites, Groundwater Remediation & Hydrostatic Tests* (9VAC25-120 et seq.) and the applicability of those limitations to this facility concerning gasoline and other petroleum product contaminations.

4). Total Petroleum Hydrocarbons:

It is proposed that a technology-based limit of 15 mg/L for the parameter Total Petroleum Hydrocarbons (TPH) be included with this issuance. This limit is applicable for discharges where the contamination is from petroleum products other than gasoline. It is based on the ability of simple oil/water separator technology to recover free product from water. Wastewater that is discharged without a visible sheen is generally expected to meet this effluent limitation.

5). Ethanol:

Neither the DEQ nor EPA has promulgated acute and chronic water quality criteria for ethanol in surface waters. Acute and chronic water quality benchmarks for ethanol were developed using toxicity information available for aquatic invertebrates (*Daphnia* species), rainbow trout, and the fathead minnow from EPA's ECOTOX database (Iott 2001). Based on the available data and using Tier II procedures outlined in the for EPA's Final Water Quality Guidance for the Great Lakes System, an acute water quality benchmark for ethanol in surface water is 564 mg/L, and a chronic water quality benchmark for ethanol is 63 mg/L. The values indicate that an ethanol concentration of 564 mg/L in the water column is likely to cause acute toxicity to freshwater aquatic life and that an ethanol concentration of 64 mg/L in the water column is likely to cause chronic toxicity to freshwater life. The chronic and acute water quality benchmarks developed for ethanol (EPA 2006) are lower than draft water quality criteria developed by the EPA.

Ethanol does not bioaccumulate or bioconcentrate in the tissue of living organisms due to ethanol's chemical properties and to the ability of most organisms to metabolize ethanol (Iott 2001). Human health risks from exposure to ethanol appear to be minimal, especially when compared with the risks posed by other gasoline constituents. Likewise, aquatic toxicity levels for ethanol are quite high. Ethanol also appears to degrade rapidly in both surface and subsurface environments. Based upon these factors, the DEQ does not believe that effluent limits for ethanol are needed for discharge of waters associated with petroleum products containing up to 10% ethanol. This facility does not dispense or store gasoline containing greater than 10% ethanol; thus, limitations for ethanol are not warranted.

## 6). Naphthalene:

The EPA criteria document for naphthalene (EPA 440/5-80-059) gives a chronic effect concentration of 620 µg/L with fathead minnows, but it states that effects would occur at lower concentrations if more sensitive freshwater organisms were tested. According to the ECOTOX DATABASE, naphthalene at a concentration of 1,000 µg/L was lethal to 50% of the water fleas (*Daphnia pulex*) tested (Truco et al. 1983). DeGaere and associates (1982) tested the effects of naphthalene on Rainbow Trout and reported an LC50 concentration of 1600 µg/L. Based upon these more recent studies, it is recommended that the effluent limit for naphthalene in freshwater be set at 10 µg/L.

The proposed effluent limitation for naphthalene is a water quality-based limit. It is generally applied at sites where contamination is from diesel or other fuels that are not classified as gasoline. Naphthalene is a component of both gasoline and non-gasoline petroleum products, but its relative concentration is higher in products such as diesel and kerosene than in gasoline. One of the source areas is a diesel fueling island.

## 7). Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX):

***Benzene***

The EPA criteria document for benzene (EPA 440/5-80-018, EPA 1980a) states that benzene may be acutely toxic to freshwater organisms at concentrations as low as 5,300 µg/L. This is an LC50 value for rainbow trout. The document also states that acute toxicity would occur at lower concentrations among more sensitive species. No data were available concerning the chronic toxicity of benzene to sensitive freshwater organisms. The derivation of a "safe level" for benzene was based on the 5,300 µg/L LC50. This value was divided by 10 in order to approximate a level which would not be expected to cause acute toxicity. The use of an application factor of 10 was recommended by the National Academy of Sciences in the EPA's publication "Water Quality Criteria, 1972" (EPA/R3/73-033). This use of application factors when setting water quality criteria is still considered valid in situations where data are not sufficient to develop criteria according to more recent guidance. The resulting "non-lethal" concentration of 530 µg/L was divided by an assumed acute to chronic ratio of 10 to arrive at the water quality-based permit limitation of 53 µg/L. When actual data are not available, EPA, in the Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) recommends using an acute to chronic ratio of 10. The EPA model permit's technology-based 50 µg/L value is more protective, therefore, it was chosen over the 53 µg/L water quality-based concentration.

***Toluene***

The EPA criteria document for toluene (EPA 440/5-80-075, EPA 1980c) states that acute toxicity to freshwater organisms occurs at 17,500 µg/L and would occur at lower concentrations if more sensitive organisms were tested. No data are available on the chronic toxicity of toluene to freshwater species. Based on the available data for acute toxicity and dividing by the application factor of 100, the proposed effluent limit for toluene discharged to freshwater is 175 µg/L.

***Ethylbenzene***

The EPA criteria document for ethylbenzene (EPA 440/5-80-048, EPA 1980b) gives an acute effects concentration of 32,000 µg/L. This is an LC50 for bluegill sunfish. Acute toxicity may occur at lower concentrations if more sensitive species were tested. No definitive data are available on the chronic toxicity of ethylbenzene to freshwater organisms. In order to derive an acceptable level of ethylbenzene for the protection of freshwater organisms the acute value of 32,000 µg/L was divided by 100, using the same assumptions employed above for benzene. The resulting value of 320 µg/L is a calculated chronic toxicity concentration for ethylbenzene.

*Xylenes*

Xylene is not a 307(a) priority pollutant; therefore, no criteria document exists for this compound. There are three isomers of xylene (ortho, meta and para) and the general permit limits are established so that the sum of all xylenes is considered in evaluating compliance. The proposed effluent limits are based on a search of the EPA's ECOTOX data base. According to ECOTOX, the lowest freshwater LC50 for xylenes is 3,300 µg/L reported for rainbow trout (Mayer and Ellersieck 1986). Based on the rationale presented earlier for other compounds, this acutely toxic concentration was divided by 10 to account for species that were not tested but which may be more sensitive than rainbow trout. Then, in order to find a concentration that is expected to be safe over chronic exposures, an additional safety factor of 10 was applied to arrive at the proposed effluent limitation of 33 µg/L total xylenes.

- 8). Lead; Ethylene Dibromide (EDB); 1,2-Dichlorethane (1,2 DCA); and Methyl Tertiary Butyl Ether (MTBE):

Effluent limitations for the aforementioned contaminants are imposed under the general permit on discharges resulting from gasoline contaminated sites. However, it is staff's best professional judgement that these parameters are not pollutants of concern at this facility. Leaded fuels are not dispensed at this facility and the additive MTBE has been replaced by ethanol.

d. Effluent Limitations and Monitoring, Outfall 002 – Conventional and Non-Conventional Pollutants

pH limitations are set at the water quality criteria.

e. Effluent Limitations and Monitoring Summary

The effluent limitations and monitoring requirements are presented in the following table. Limits and monitoring were established for pH, Total Petroleum Hydrocarbons (TPH), Naphthalene, Benzene, Toluene, Ethylbenzene, Total Xylenes and Total Suspended Solids (TSS).

The limitations for TPH and Naphthalene at Outfall 002 are based on staff's best professional judgement, source areas and the limitations as set forth in General Permit 9VAC25-120 et seq.

Monitoring for Benzene, Toluene, Ethylbenzene and Total Xylenes at Outfall 002 is based on staff's best professional judgement and ensures that free product is not leaving the facility under normal operations. Staff will evaluate the monitoring results during the permit reissuance to determine if continued monitoring is warranted.

Monitoring for TSS at Outfall 002 is based on staff's best professional judgement in order to ensure that Basin #2 is operating as designed.

Outfall 001 will be governed by best management practices per the stormwater pollution prevention plan that will be required by this permit.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

**18. Antibacksliding:**

This is the first permit issuance for this facility; therefore, backsliding is not applicable.

**19a. Effluent Limitations/Monitoring Requirements: Outfall 001/Basin #1**

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

No monitoring or effluent limitations are proposed for this outfall.

There shall be no discharge of process wastewater from this outfall.

See Section 20.b. for further discussion.

**19b. Effluent Limitations/Monitoring Requirements: Outfall 002/Basin #2**

Design average flow is 0.00017 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Total Petroleum Hydrocarbons (TPH)*	2,4	NA	NA	NA	15 mg/L	1/M	Grab
Naphthalene**	2,4	NA	NA	NA	10 µg/L	1/M	Grab
Benzene***	2	NA	NA	NA	NL µg/L	1/Q	Grab
Toluene***	2	NA	NA	NA	NL µg/L	1/Q	Grab
Ethylbenzene***	2	NA	NA	NA	NL µg/L	1/Q	Grab
Total Xylene***	2	NA	NA	NA	NL µg/L	1/Q	Grab
Total Suspended Solids (TSS)	2	NA	NA	NA	NL mg/L	1/6M	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements

MGD = Million gallons per day.

1/M = Once every month.

2. Best Professional Judgement

NA = Not applicable.

1/Q = Once every calendar quarter.

3. Water Quality Standards

NL = No limit; monitor and report.

1/6M = Once every six (6) months.

4. 9VAC25-120 (Petroleum General Permit)

S.U. = Standard units.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

\*Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics or TPH-GRO and TPH-DRO to be measured by EPA SW 846 Method 8015 for gasoline and diesel range organics, or by EPA SW 846 Methods 8260 Extended and 8270 Extended.

\*\* Naphthalene shall be analyzed by a current and appropriate EPA Wastewater Method from 40 CFR Part 136 or a current and appropriate EPA SW 846 Method.

\*\*\*During this permit term, the permittee shall monitor for Benzene, Toluene, Ethylbenzene and Total Xylene (BTEX) for four (4) consecutive quarters and then semiannual thereafter if no results exceed the following limitations as set forth in the *General VPDES Permit for Discharges from Petroleum Contaminated Sites, Groundwater Remediation & Hydrostatic Tests* (9VAC25-120 et seq.): Benzene (50 µg/L); Toluene (175 µg/L); Ethylbenzene (320 µg/L); Total Xylene (33 µg/L).

The quarterly monitoring periods shall be January through March, April through June, July through September, and October through December.

The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period.

The semiannual monitoring periods shall be January through June and July through December.

The DMR shall be submitted no later than the 10<sup>th</sup> day of the month following the monitoring period.

**20. Other Permit Requirements:**

- a. Permit Section Part I.B. contains quantification levels and compliance reporting instructions.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

- b. Permit Section Part I.C. details the requirements of a Stormwater Pollution Prevention Plan.

Stormwater associated with industrial activity may contain pollutants in quantities that could adversely affect water quality. Stormwater discharges which are discharged through a conveyance or outfall are considered point sources and require coverage by a VPDES discharge permit. The primary method to reduce or eliminate pollutants in stormwater discharges originating from an industrial facility is through the use of best management practices (BMPs). The Stormwater Management Plan requirements are derived from the VPDES General Permit for Stormwater Discharges Associated with Industrial Activity, 9VAC25-151 et seq.

**21. Other Special Conditions:**

- a. O&M Manual Requirement. Required by VPDES Permit Regulation, 9VAC25-31-190.E. On or before 12 October 2012, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- b. Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:
- 1). That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - a) One hundred micrograms per liter;
    - b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
    - c) Five times the maximum concentration value reported for that pollutant in the permit application; or
    - d) The level established by the Board.
  - 2). That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
    - a) Five hundred micrograms per liter;
    - b) One milligram per liter for antimony;
    - c) Ten times the maximum concentration value reported for that pollutant in the permit application; or
    - d) The level established by the Board.
- c. Materials Handling/Storage. 9VAC25-31-50.A. prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.
- d. No Discharge of Detergents, Surfactants or Solvents to the Oil/Water Separator. This special condition is necessary to ensure that the oil/water separator's performance is not impacted by compounds designed to emulsify oil. Detergents, surfactants and some other solvents will prohibit oil recovery by physical means.
- e. Oil/Water Separator Logs. This special condition requires the permittee to report on a monthly basis, the inspection of the oil/water separator and all clean-outs performed on the treatment units. At a minimum, the permittee shall check the level of the separator on a monthly basis. The monthly inspection and any clean-outs shall be reported with the Discharge Monitoring Reports.

- f. Stormwater Collection System Maintenance. The permittee shall maintain the stormwater conveyance system to ensure that adequate capacity exists to direct the runoff through the oil/water separator. Conveyances and inlets shall be inspected monthly and accumulated grit and debris removed as required.
- g. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.
22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.
23. **Changes to the Permit from the Previously Issued Permit:**

- a. Special Conditions: Not Applicable.
- b. Monitoring and Effluent Limitations: Not Applicable.

24. **Variances/Alternate Limits or Conditions:** Not Applicable.

25. **Public Notice Information:**

First Public Notice Date: 25 May 2012

Second Public Notice Date: 1 June 2012

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 7** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action and may request a public hearing during the comment period. Comments shall include the name, address and telephone number of the writer and of all persons represented by the commenter/requester and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. **303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):**

The receiving stream, downstream of Outfall 002, has been listed as impaired due to pH excursions. A TMDL is expected by 2022 unless it is determined that the impairment is caused by natural conditions.

27. **Additional Comments:**

Previous Board Action(s): Not Applicable.

Staff Comments: Note: the permit application refers to the discharge point for the oil/water separator (OWS) as Outfall 001. However, it was staff's best professional judgement that the second stormwater basin discharge necessitated coverage under this permit. Since the basins were referred to as Basin #1 (non-contaminated stormwater) and Basin #2 (OWS) by the facility, staff decided that the outfall numbering as Outfall 001 and Outfall 002, respectively, would eliminate any confusion.

Public Comment: No comments were received during the public notice.

EPA Checklist: The checklist can be found in **Attachment 8**.



# Fact Sheet Attachments

## Table of Contents

Flying J Travel Plaza #749

VA0092657

2012 Issuance

Attachment 1	NPDES Permit Rating Worksheet
Attachment 2	Facility Schematic/Diagram
Attachment 3	Topographic Map
Attachment 4	Site Inspection Memo
Attachment 5	Planning Statement
Attachment 6	Water Quality Criteria
Attachment 7	Public Notice
Attachment 8	EPA Checklist

## NPDES PERMIT RATING WORK SHEET

VPDES NO. : VA0092657

- ☒ Regular Addition  
☐ Discretionary Addition  
☐ Score change, but no status Change  
☐ Deletion

Facility Name: Flying J Travel Plaza #749  
City / County: Carmel Church / Caroline  
Receiving Water: North Anna River, UT  
Waterbody ID: VAP-F09R

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)  
2. A nuclear power Plant  
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

- ☐ YES; score is 700 (stop here)  
☒ NO; (continue)

☐ Yes; score is 600 (stop here) ☒ NO; (continue)

**FACTOR 1: Toxic Pollutant Potential**

PCS SIC Code: \_\_\_\_\_ Primary Sic Code: **5541** Other Sic Codes: \_\_\_\_\_  
Industrial Subcategory Code: **000** (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input checked="" type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: **8**

Total Points Factor 1: **40**

**FACTOR 2: Flow/Stream Flow Volume** (Complete either Section A or Section B; check only one)**Section A – Wastewater Flow Only considered**

Wastewater Type (see Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input checked="" type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

**Section B – Wastewater and Stream Flow Considered**

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/III:	< 10 %	<input type="checkbox"/> 41	0
	10 % to < 50 %	<input type="checkbox"/> 42	10
	> 50%	<input type="checkbox"/> 43	20
Type II:	< 10 %	<input type="checkbox"/> 51	0
	10 % to < 50 %	<input type="checkbox"/> 52	20
	> 50 %	<input type="checkbox"/> 53	30

Code Checked from Section A or B: **21**

Total Points Factor 2: **10**

## NPDES PERMIT RATING WORK SHEET

**FACTOR 3: Conventional Pollutants**

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: \_\_\_\_\_

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> < 100 lbs/day	1	0
<input type="checkbox"/> 100 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 3000 lbs/day	3	15
<input type="checkbox"/> > 3000 lbs/day	4	20

Code Number Checked: NAPoints Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> < 100 lbs/day	1	0
<input type="checkbox"/> 100 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 5000 lbs/day	3	15
<input type="checkbox"/> > 5000 lbs/day	4	20

Code Number Checked: NAPoints Scored: 0C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: \_\_\_\_\_

Permit Limits: (check one)

	Code	Points
<input type="checkbox"/> < 300 lbs/day	1	0
<input type="checkbox"/> 300 to 1000 lbs/day	2	5
<input type="checkbox"/> > 1000 to 3000 lbs/day	3	15
<input type="checkbox"/> > 3000 lbs/day	4	20

Code Number Checked: NAPoints Scored: 0Total Points Factor 3: 0**FACTOR 4: Public Health Impact**

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☐ YES; (If yes, check toxicity potential number below)☒ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: NATotal Points Factor 4: 0

## NPDES PERMIT RATING WORK SHEET

**FACTOR 5: Water Quality Factors**

*Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines) or has a wasteload allocation been assigned to the discharge?*

<input type="checkbox"/>	YES	Code 1	Points 10
<input checked="" type="checkbox"/>	NO	2	0

*B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

<input checked="" type="checkbox"/>	YES	Code 1	Points 0
<input type="checkbox"/>	NO	2	5

*C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

<input type="checkbox"/>	YES	Code 1	Points 10
<input checked="" type="checkbox"/>	NO	2	0

Code Number Checked: A 2 B 1 C 2  
 Points Factor 5: A 0 + B 0 + C 0 = 0

**FACTOR 6: Proximity to Near Coastal Waters**

A. Base Score: Enter flow code here (from factor 2) 21

Check appropriate facility HPRI code (from PCS):

HPRI#	Code	HPRI Score
<input type="checkbox"/> 1	1	20
<input type="checkbox"/> 2	2	0
<input type="checkbox"/> 3	3	30
<input checked="" type="checkbox"/> 4	4	0
<input type="checkbox"/> 5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.10

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked: 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.10 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

<input type="checkbox"/>	Code 1	Points 10
<input type="checkbox"/>	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

<input type="checkbox"/>	Code 1	Points 10
<input type="checkbox"/>	2	0

Code Number Checked: A 4 B NA C NA  
 Points Factor 6: A 0 + B 0 + C 0 = 0

## NPDES PERMIT RATING WORK SHEET

## SCORE SUMMARY

<u>Factor</u>	<u>Description</u>	<u>Total Points</u>
1	Toxic Pollutant Potential	40
2	Flows / Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	0
TOTAL (Factors 1 through 6)		50

S1. Is the total score equal to or greater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: \_\_\_\_\_

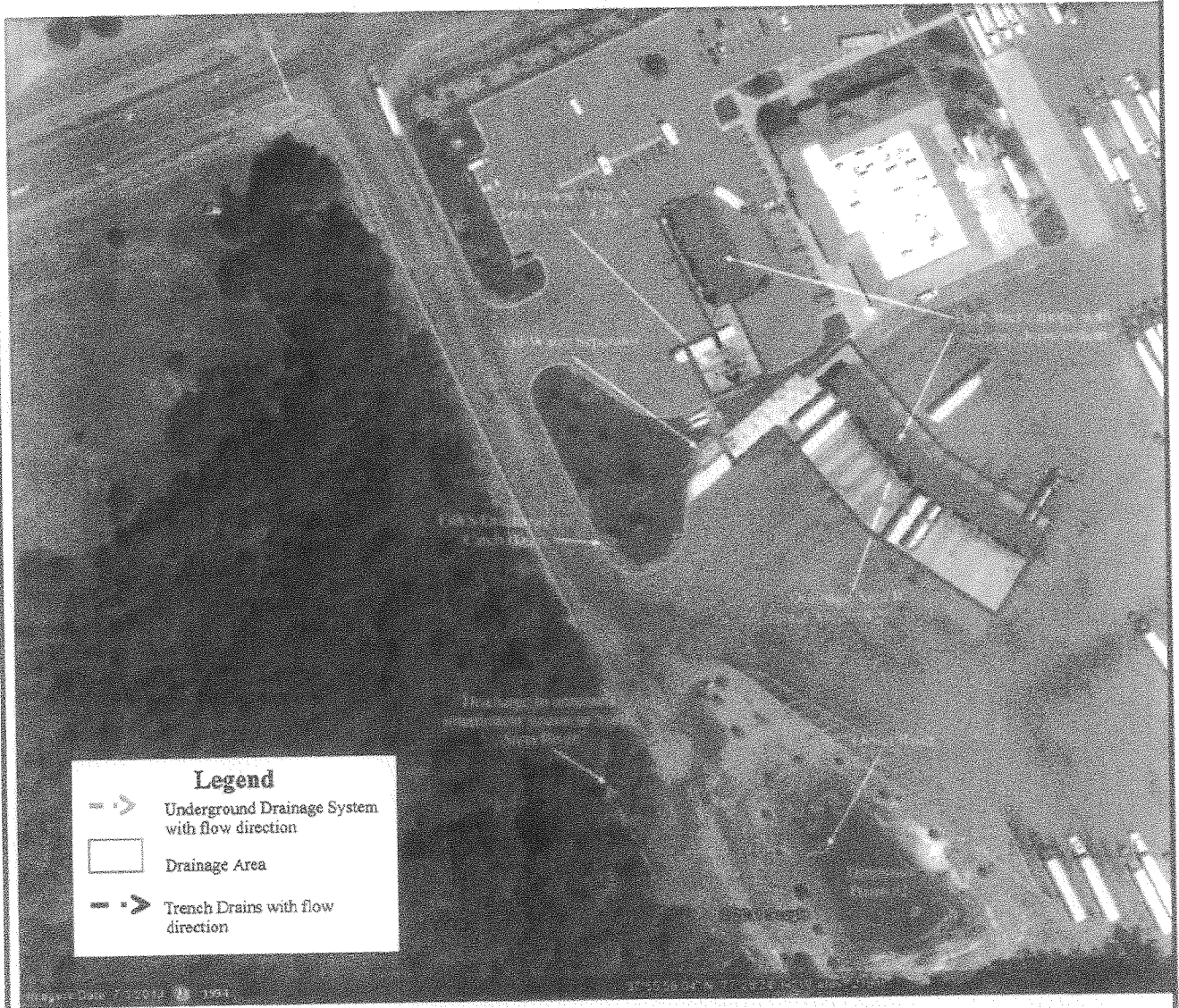
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NEW SCORE : 50  
OLD SCORE : NA

Permit Reviewer's Name : Douglas Frasier  
Phone Number: 703-583-3873  
Date: 14 November 2011

## Site Drainage Map

Flying J #749  
24279 Rogers Clark Boulevard



APEX COMPANIES, LLC.  
203 WYLDEROSE COURT  
MIDLOTHIAN, VIRGINIA 23113  
(804) 897-2718

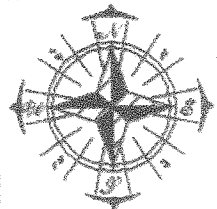
Image Source: Google Earth Images  
Date: 7/3/2010

Project: Flying J #749

Client: Pilot Travel Centers,  
LLC

Apex Job #: 768490.001

Date: September 2011





Imagery Date: Jul 4, 2010

37°55'58.32" N 77°28'18.99" W elev 233 ft

Eye alt 1892 ft




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## MEMORANDUM

**TO:** File

**FROM:** Douglas Frasier

**DATE:** 20 April 2012

**SUBJECT:** Site Inspection – Flying J Travel Plaza #749 – VA0092657

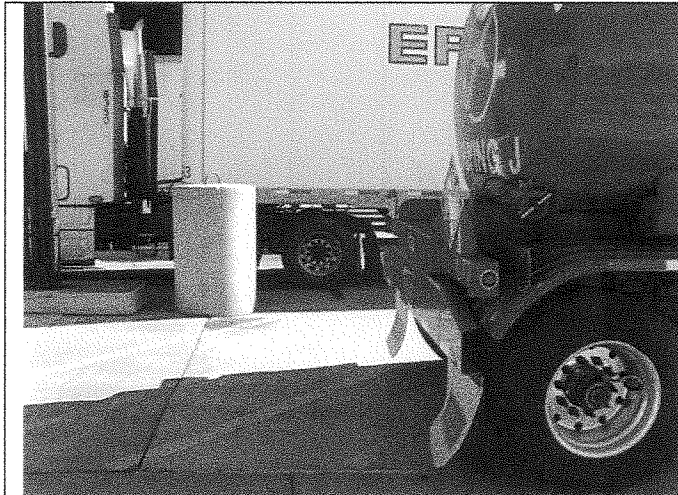
This is the first issuance for this facility. Flying J is a travel center situated on 25 acres, conducting retail sales of gasoline and diesel fuels; including a convenience store and a restaurant. Stormwater and daily operation wash downs of the fueling islands are routed from the diesel, gasoline and RV fueling islands via trench drains located along the entrance of each fueling island. The diesel fueling island trench drain is routed to an oil/water separator (OWS). All flow is then directed to a settling basin that is utilized to remove solids that runoff from the front half of the parking areas. The basin is equipped with oil absorbent socks at both the inlet and outlet.

There is also a second retention basin on the site that serves as a settling basin for runoff from the remaining parking areas.

The oil/water separator (OWS) was replaced in March 2012. The gasoline and RV trench drains were re-routed directly to the facility's stormwater conveyance system.



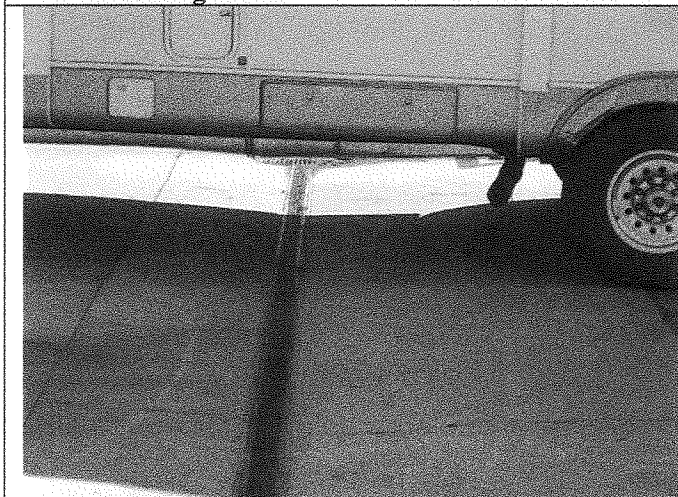
Flying J Travel Plaza #749  
VA0092657  
Site Visit  
7 February 2012 / 19 April 2012



1. Diesel fueling island



2. Gasoline fueling island



3. RV fueling island



4. Oil/water separator



5. Settling basin #1



6. Settling basin #2

To: Douglas Frasier  
From: Katie Conaway/Jennifer Carlson

Date: December 29, 2011  
Subject: Planning Statement for Flying J Travel Plaza #749  
Permit Number: VA0092657

Discharge Type: Industrial – oil/water separator at fueling island  
Discharge Flow: 0.00017 MGD  
Receiving Stream: Unnamed Tributary to the North Anna River  
Latitude / Longitude: 37° 55' 57.5" / -77° 28' 25.9"  
Streamcode: 8-XIM  
Waterbody: VAP-F09R  
River Basin: 8  
Water Quality Standards: Class III, Section 3  
Rivermile: 3.38  
Drainage Area: 0.034 mi<sup>2</sup>

1. Is there monitoring data for the receiving stream?

Yes. The receiving stream is an Unnamed Tributary to the North Anna River. While there is data for this stream, it is important to note that the assessment of this data does not apply to the segment of the UT that receives the discharge of this facility. The outfall for VA0092657 is located approximately 2.68 rivermiles upstream from the assessed segment of the UT.

- If yes, please attach latest summary.

The nearest downstream DEQ monitoring station with ambient data is Station 8-XIM000.53, which is a Freshwater Probabilistic Monitoring Station. This station is located approximately 2.85 rivermiles downstream from the Outfall of VA0092657. The following is a monitoring summary for this station, as taken from the 2010 Integrated Assessment:

*Class III, Section 3e, PWS*

*DEQ Freshwater Probabilistic Monitoring Station 8-XIM000.53*

*During the 2010 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 2/2 at freshwater probabilistic monitoring station 8-XIM000.53.*

- If no, where is the nearest downstream monitoring station.

N/A

2. Is the receiving stream on the current 303(d) list?

Yes, a portion of the receiving stream, an Unnamed Tributary to the North Anna River (XIM) is on the current 303(d) list. The impaired portion of XIM is located approximately 2.68 rivermiles downstream from this facility's outfall.

- If yes, what is the impairment?

Aquatic Life Use Impairment – ph: During the 2010 cycle, the tributary was assessed as not supporting of the Aquatic Life Use due to a pH exceedance rate of 2 of 2 samples (100%) at freshwater probabilistic monitoring station 8-XIM000.53.

- Has the TMDL been prepared?

No.

- If yes, what is the WLA for the discharge?

N/A

- If no, what is the schedule for the TMDL?

TMDL due by 2022. Note: Prior to development of the TMDL the impairment will be investigated to determine if it is caused by natural conditions (i.e. swamp-like conditions).

3. If the answer to (2) above is no, is there a downstream 303(d) listed impairment?

N/A

- If yes, what is the impairment?

N/A

- Has a TMDL been prepared?

N/A

- Will the TMDL include the receiving stream?

N/A

- Is there a WLA for the discharge?

N/A

- What is the schedule for the TMDL?

N/A

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information on other VPDES permits or VADEQ monitoring stations located within a 2 mile radius of the facility. In addition, please provide information on any drinking water intakes located within a 5 mile radius of the facility.

There are no DEQ monitoring stations within a 2 mile radius of this facility.

There are no drinking water intakes within a 5 mile radius of this facility.

Within a 2 mile radius, there is one VPDES permitted facility: VA0085871 – Loves Travel Stop 435; however, it is noted that this facility is located in a different watershed (VAN-F20R).

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Flying J Travel Plaza #749 Permit No.: VA0092657  
 Receiving Stream: North Anna River, UT  
 Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	0 %	Mean Hardness (as CaCO3) =	50 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	0 %	90% Temp (Annual) =	25 deg C
90% Temperature (Wet season) =	deg C	3Q10 (Annual) =	0 MGD	- 3Q10 Mix =	0 %	90% Temp (Wet season) =	15 deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	0 %	90% Maximum pH =	8 SU
10% Maximum pH =	SU	3Q10 (Wet season) =	0 MGD	- 3Q10 Mix =	0 %	10% Maximum pH =	7 SU
Tier Designation (1 or 2) =	1	3Q5 =	0 MGD			Discharge Flow =	0.00017 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Acenaphthene	5	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	na
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	na
Acrylonitrile <sup>c</sup>	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	na
Aldrin <sup>c</sup>	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	3.0E+00	--	na
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.24E+00	na	--	8.41E+00	1.24E+00	na	--	--	--	--	--	8.41E+00	1.24E+00	na
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.36E+00	na	--	8.41E+00	2.36E+00	na	--	--	--	--	--	8.41E+00	2.36E+00	na
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	na
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	na
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	3.4E+02	1.5E+02	na
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Benzene <sup>c</sup>	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	na
Benzidine <sup>c</sup>	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	na
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	na
Bis(2-Chloroethyl) Ether <sup>c</sup>	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	na
Bis(2-Chloroisopropyl) Ether <sup>c</sup>	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	na
Bis 2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	na
Bromoform <sup>c</sup>	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	na
Butylbenzylphthalate	0	1.8E+00	6.8E-01	na	--	1.8E+00	6.8E-01	na	--	--	--	--	--	1.8E+00	6.8E-01	na
Cadmium	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	na
Carbon Tetrachloride <sup>c</sup>	0	--	--	na	8.1E-03	--	--	na	8.1E-03	--	--	--	--	--	--	na
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	2.4E+00	4.3E-03	--	na	2.4E+00	4.3E-03	--	--	--	2.4E+00	4.3E-03	na
Chlordane <sup>c</sup>	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	8.6E+05	2.3E+05	na
Chloride	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	1.9E+01	1.1E+01	na
TRC	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	na
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	na



Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Chlorobromomethane <sup>c</sup>	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	na
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	na
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	na
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	na
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	8.3E-02	4.1E-02	na
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	3.2E+02	4.2E+01	na
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	1.6E+01	1.1E+01	na
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	na
Chrysene <sup>c</sup>	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	na
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	7.0E+00	5.0E+00	na
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	2.2E+01	5.2E+00	na
DDD <sup>c</sup>	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	na
DDE <sup>c</sup>	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	na
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	1.1E+00	1.0E-03	na
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	1.0E-01	na
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	1.7E-01	1.7E-01	na
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	na
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	na
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	na
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	na
Dichlorobromomethane <sup>c</sup>	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	na
1,2-Dichloroethane <sup>c</sup>	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	na
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	na
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	na
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	na
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,2-Dichloropropane <sup>c</sup>	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	na
1,3-Dichloropropene <sup>c</sup>	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	na
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	2.4E-01	5.6E-02	na
Diethyl Phthalate	0	--	--	na	4.4E-04	--	--	na	4.4E-04	--	--	--	--	--	--	na
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	na
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	na
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	na
2,4-Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	na
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	na
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	na
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	na
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	na
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	2.2E-01	5.6E-02	na
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	2.2E-01	5.6E-02	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	na
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	8.6E-02	3.6E-02	na
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	na
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	na
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	na
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	1.0E-02	na
Heptachlor <sup>c</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	5.2E-01	3.8E-03	na
Heptachlor Epoxide <sup>c</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	5.2E-01	3.8E-03	na
Hexachlorobenzene <sup>c</sup>	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	na
Hexachlorobutadiene <sup>c</sup>	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	na
Hexachlorocyclohexane	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	na
Alpha-BHC <sup>c</sup>	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	na
Beta-BHC <sup>c</sup>	0	--	--	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	9.5E-01	--	na
Hexachlorocyclohexane	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	na
Gamma-BHC <sup>c</sup> (Lindane)	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	na
Hexachlorocyclopentadiene	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	2.0E+00	na
Hexachloroethane <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	na
Hydrogen Sulfide	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	na
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	0.0E+00	na
Iron	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	4.9E+01	5.6E+00	na
Isophorone <sup>c</sup>	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	1.0E-01	na
Kepone	0	--	--	na	7.7E-01	1.4E+00	7.7E-01	na	--	--	--	--	--	1.4E+00	7.7E-01	na
Lead	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	na
Malathion	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	na
Manganese	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	3.0E-02	na
Mercury	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	1.0E+02	1.1E+01	na
Methyl Bromide	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Methylene Chloride <sup>c</sup>	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	na
Methoxychlor	0	--	0.0E+00	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	na
Mirex	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	na
Nickel	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	na
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	na
N-Nitrosodimethylamine <sup>c</sup>	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	na
N-Nitrosodiphenylamine <sup>c</sup>	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	na
N-Nitrosodi-n-propylamine <sup>c</sup>	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	na
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	2.8E+01	6.6E+00	na
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	6.5E-02	1.3E-02	na
PCB Total <sup>c</sup>	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	1.4E-02	na
Pentachlorophenol <sup>c</sup>	0	8.7E+00	6.7E+00	na	3.0E+01	8.7E+00	6.7E+00	na	3.0E+01	--	--	--	--	8.7E+00	6.7E+00	na
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	na
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	na
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	na
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	2.0E+01	5.0E+00	na
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	1.0E+00	--	na
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	na
Tetrachloroethylene <sup>c</sup>	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	na
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	na
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	na
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	7.3E-01	2.0E-04	na
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	4.6E-01	7.2E-02	na
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	na
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	na
Trichloroethylene <sup>c</sup>	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	na
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	na
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Vinyl Chloride <sup>c</sup>	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	na
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	6.5E+01	6.6E+01	na

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Public Notice – Environmental Permit

**PURPOSE OF NOTICE:** To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of stormwater into a water body in Caroline County, Virginia.

**PUBLIC COMMENT PERIOD:** May 26, 2012 to 5:00 p.m. on June 25, 2012

**PERMIT NAME:** Virginia Pollutant Discharge Elimination System Permit – Stormwater issued by DEQ, under the authority of the State Water Control Board

**APPLICANT NAME, ADDRESS AND PERMIT NUMBER:** Pilot Travel Centers, LLC  
5508 Lonas Road, Knoxville, TN 37939  
VA0092657

**NAME AND ADDRESS OF FACILITY:** Flying J Travel Plaza #749  
24279 Rogers Clark Boulevard  
Carmel Church, VA 22546

**PROJECT DESCRIPTION:** Pilot Travel Centers, LLC has applied for a new permit for the private Flying J Travel Plaza #749. The applicant proposes to release storm water at a rate of 0.00017 million gallons per day into a water body. There is no sludge generated at this facility. The facility proposes to release the storm water in the North Anna River, UT in Caroline County in the York River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, Total Petroleum Hydrocarbons, Naphthalene, Benzene, Toluene, Ethylbenzene, Total Xylene and Total Suspended Solids.

**HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING:** DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

**CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION:** The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier  
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193  
Phone: (703) 583-3873 email: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821

**State "Transmittal Checklist" to Assist in Targeting  
Municipal and Industrial Individual NPDES Draft Permits for Review**

**Part I. State Draft Permit Submission Checklist**

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Flying J Travel Plaza #749
NPDES Permit Number:	VA0092657
Permit Writer Name:	Douglas Frasier
Date:	10 February 2012

Major [ ]

Minor [X]

Industrial [X]

Municipal [ ]

**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?			X
7. Dissolved Oxygen calculations?			X
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?	X		

**I.B. Permit/Facility Characteristics**

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?	X		
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet <b>or</b> permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?			X
5. Has there been any change in streamflow characteristics since the last permit was developed?			X
6. Does the permit allow the discharge of new or increased loadings of any pollutants?			X
7. Does the fact sheet <b>or</b> permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water? <b>DOWNSTREAM</b>			X
a. Has a TMDL been developed and approved by EPA for the impaired water?		X	
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit? <b>DOWNSTREAM</b>		X	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water? <b>DOWNSTREAM</b>		X	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?			X
10. Does the permit authorize discharges of storm water?	X		

<b>I.B. Permit/Facility Characteristics – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?			X
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?			X
14. Are any WQBELs based on an interpretation of narrative criteria?			X
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	X		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?			X

## Part II. NPDES Draft Permit Checklist

### Region III NPDES Permit Quality Review Checklist – For Non-Municipals (To be completed and included in the record for all non-POTWs)

#### II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

#### II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

#### II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)

	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		X	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			X
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	X		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	X		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	X		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)?			X
5. Does the permit contain “tiered” limits that reflect projected increases in production or flow?		X	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?		X	
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		X	

#### II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		



<b>II.D. Water Quality-Based Effluent Limits – cont.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?			X
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?			X
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?			X
8. Does the fact sheet indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		


<b>II.E. Monitoring and Reporting Requirements</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit require at least annual monitoring for all limited parameters?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State’s standard practices?			X

<b>II.F. Special Conditions</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?	X		
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?	X		
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		

II.G. Standard Conditions		Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?		X		
List of Standard Conditions – 40 CFR 122.41				
Duty to comply	Property rights	Reporting Requirements		
Duty to reapply	Duty to provide information	Planned change		
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance		
not a defense	Monitoring and records	Transfers		
Duty to mitigate	Signatory requirement	Monitoring reports		
Proper O & M	Bypass	Compliance schedules		
Permit actions	Upset	24-Hour reporting		
		Other non-compliance		
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?		X		

### Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Douglas Frasier</u>
Title	<u>VPDES Permit Writer, Senior II</u>
Signature	<u></u>
Date	<u>10 February 2012</u>